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Attorney's Docket No. 00-0384  
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## PATENT Utility APPLICATION COVER SHEET

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Sir:

Transmitted herewith for filing is the utility patent application of:

INVENTOR: JOSEPH LIGOCI, SR.  
ELIAS GOLETSAS

FOR: FREQUENCY ACTIVATED NEUTRALIZING GENERATOR SYSTEM

**Enclosed are:**

- Postcard for receipt stamp and return.
- Applicant's Check for \$345.00, covering fees calculated below.
- Specification with Claims, Abstract, & Declaration & Power of Attorney
- A verified statement to establish small entity status under 37C.F.R. § 1.9 and 37 C.F.R. § 1.27.
- 7 sheets of drawing.
- Cover Sheet & Assignment to: \_\_\_\_\_
- Information Disclosure Statement.

The filing fee has been calculated as shown below:

FOR:	Col. 1 No. Filed	Col. 2 No. Extra	SMALL ENTITY RATE	FEES
BASIC FEE			\$345	\$345
TOTAL CLAIMS	13   -20=	0   x09	0	
INDEPENDENT CLAIMS	3   -3=	0   x39	0	
MULTIPLE DEPENDENT CLAIMS PRESENTED			+125	
		TOTAL		\$345

### DEPOSIT ACCOUNT AUTHORIZATION

The Commissioner is hereby authorized to charge any fees, which are not otherwise submitted and which may be required under 37 CFR 1.17 during the entire pendency of this application, to the Deposit Account # 11-0020.

September 15, 2000

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Date

Attorney's Docket No. K&A 00-0384  
Client's Docket No. RST142CIP

Applicant or Patentee: **JOSEPH P. LIGOCI, SR. & ELIAS J. GOLETSAS**  
Serial or Patent Number:  
Filed or Issued:  
For: **FREQUENCY ACTIVATED NEUTRALIZING  
GENERATOR SYSTEM**

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY  
STATUS (37 CFR 1.9(f) and 1.27(b) - INDEPENDENT INVENTOR**

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled as above and described in:

the specification filed herewith.

[ ] application serial number \_\_\_\_\_, filed \_\_\_\_\_.  
[ ] patent no. \_\_\_\_\_, issued \_\_\_\_\_.  
[ ]

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

[X] no such person, concern, or organization  
[ ] persons, concerns or organizations listed below\*

\*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

FULL NAME: NOT APPLICABLE [ ] INDIVIDUAL  
ADDRESS: NOT APPLICABLE [ ] SMALL BUSINESS CONCERN  
[ ] NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate (37 CFR 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF INVENTOR: JOSEPH P. LIGOCI, SR.

*Joseph P. Regoci, Jr.*  
Inventor's Signature

Date: 08-10-00

NAME OF INVENTOR: ELIAS J. GOLETSAS

Elois H. Jettos  
Inventor's Signature

Date: 08-10-08

Attorney's Docket No. K&A 00-0384  
Client's Docket No. RST142CIP

**APPLICATION**

**FOR UNITED STATES LETTERS PATENT**

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**SPECIFICATION**

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN THAT WE, **JOSEPH P. LIGOCI, SR.**, a citizen of UNITED STATES OF AMERICA, **ELIAS J. GOLETSAS**, a citizen of UNITED STATES OF AMERICA, have invented a new and useful **FREQUENCY ACTIVATED NEUTRALIZING GENERATOR SYSTEM** of which the following is a specification:

# **FREQUENCY ACTIVATED NEUTRALIZING GENERATOR SYSTEM**

## **CROSS REFERENCE TO RELATED APPLICATION**

5        This application is a continuation-in-part of Application No. 09/031,474, filed February 6, 1998.

## **BACKGROUND OF THE INVENTION**

### **Field of the Invention**

10       The present invention relates to vehicular disabling systems and more particularly pertains to a new vehicle verifying and disabling system for disabling a vehicle attempting to elude law enforcement officials.

15       **Description of the Prior Art**

20       The use of vehicular disabling systems is known in the prior art. More specifically, vehicular disabling systems heretofore devised and utilized are known to consist basically of familiar, expected and obvious structural configurations, notwithstanding the myriad of designs encompassed by the crowded prior art which have been developed for the fulfillment of countless objectives and requirements.

25       Known prior art vehicular disabling systems include U.S. Patent No. 5,939,975, U.S. Patent No. 5,835,868, U.S. Patent 5,729,192, U.S. Patent No. 5,513,244, U. S. Patent No. 5,293,527; U.S. Patent No. 5,276,728; U.S. Patent No. 4,619,231; U.S. Patent 30 No. 4,878,050; U.S. Patent No. 5,398,190; and U.S. Patent Des.

## SUMMARY OF THE INVENTION

5 In view of the foregoing disadvantages inherent in the known types of vehicular disabling systems now present in the prior art, the present invention provides a new vehicle verifying and disabling system construction wherein the same can be utilized for disabling a vehicle attempting to elude law enforcement officials.

10 The general purpose of the present invention, which will be described subsequently in greater detail, is to provide a new vehicle verifying and disabling system apparatus and method which has many of the advantages of the vehicular disabling systems

15 mentioned heretofore and many novel features that result in a new vehicle verifying and disabling system which is not anticipated, rendered obvious, suggested, or even implied by any of the prior art vehicular disabling systems, either alone or in any combination thereof.

20 To attain this, the present invention generally comprises a vehicle control unit for positioning in a vehicle. The vehicle control unit includes a transceiver for transmitting and receiving signals via free space. The transceiver is adapted to receive an inquiry signal and transmit an identification code upon the receipt of the inquiry signal. A central database station includes memory for storing a plurality of identification codes of vehicle control units. An authorization code is associated in the memory with each of the identification codes of the vehicle control units. A mobile 25 law enforcement unit is provided for positioning in a law enforcement vehicle. The law enforcement unit includes a transceiver for transmitting and receiving signals via free space.

The law enforcement unit is adapted to transmit the inquiry signal to a vehicle control unit. The law enforcement unit is adapted to receive an identification code from the vehicle control unit and transmit the identification code to central database station. The 5 law enforcement unit is adapted to transmit the stop signal with the authorization code via free space to the vehicle control unit upon the receipt of the authorization code from the central database station.

10        There has thus been outlined, rather broadly, the more important features of the invention in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are additional features of the invention that 15 will be described hereinafter and which will form the subject matter of the claims appended hereto.

20        In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable 25 of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.

30        As such, those skilled in the art will appreciate that the conception, upon which this disclosure is based, may readily be utilized as a basis for the designing of other structures, methods and systems for carrying out the several purposes of the present

invention. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the present invention.

5       Further, the purpose of the foregoing abstract is to enable the U.S. Patent and Trademark Office and the public generally, and especially the scientists, engineers and practitioners in the art who are not familiar with patent or legal terms or phraseology, to determine quickly from a cursory inspection the nature and essence  
10      of the technical disclosure of the application. The abstract is neither intended to define the invention of the application, which is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

15       It is therefore an object of the present invention to provide a new vehicle verifying and disabling system apparatus and method which has many of the advantages of the vehicular disabling systems mentioned heretofore and many novel features that result in a new vehicle verifying and disabling system which is not  
20      anticipated, rendered obvious, suggested, or even implied by any of the prior art vehicular disabling systems, either alone or in any combination thereof.

25       It is another object of the present invention to provide a new vehicle verifying and disabling system which may be easily and efficiently manufactured and marketed.

30       It is a further object of the present invention to provide a new vehicle verifying and disabling system which is of a durable and reliable construction.

An even further object of the present invention is to provide a

new vehicle verifying and disabling system which is susceptible of a low cost of manufacture with regard to both materials and labor, and which accordingly is then susceptible of low prices of sale to the consuming public, thereby making such vehicle verifying and 5 disabling system economically available to the buying public.

Still yet another object of the present invention is to provide a new vehicle verifying and disabling system which provides in the apparatuses and methods of the prior art some of the advantages 10 thereof, while simultaneously overcoming some of the disadvantages normally associated therewith.

Still another object of the present invention is to provide a new vehicle verifying and disabling system for disabling a vehicle 15 attempting to elude law enforcement officials.

Even still another object of the present invention is to provide a new vehicle verifying and disabling system that includes a vehicle control unit for positioning in a vehicle. The vehicle 20 control unit includes a transceiver for transmitting and receiving signals via free space. The transceiver is adapted to receive an inquiry signal and transmit an identification code upon the receipt of the inquiry signal. A central database station includes memory for storing a plurality of identification codes of vehicle control 25 units. An authorization code is associated in the memory with each of the identification codes of the vehicle control units. A mobile law enforcement unit is provided for positioning in a law enforcement vehicle. The law enforcement unit includes a transceiver for transmitting and receiving signals via free space. 30 The law enforcement unit is adapted to transmit the inquiry signal to a vehicle control unit. The law enforcement unit is adapted to

receive an identification code from the vehicle control unit and transmit the identification code to central database station. The law enforcement unit is adapted to transmit the stop signal with the authorization code via free space to the vehicle control unit upon 5 the receipt of the authorization code from the central database station.

These together with other objects of the invention, along with the various features of novelty which characterize the invention, 10 are pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the invention, its operating advantages and the specific objects attained by its uses, reference should be made to the accompanying drawings and descriptive matter in which there are illustrated preferred 15 embodiments of the invention.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

The invention will be better understood and objects other than 20 those set forth above will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein:

25 FIGURE 1 is a schematic overview of the operation of the system of the present invention.

FIGURE 2 is a schematic perspective view of the Law Enforcement Unit (LEU) of the invention.

30 FIGURE 3 is a schematic block diagram of the Vehicle Control Unit (VCU).

FIGURE 4 is a schematic block diagram of the Law

Enforcement Unit of the invention.

FIGURES 5A and 5B are flow diagrams of the operation of the Vehicle Control Unit (VCU).

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FIGURE 6 is a flow diagram of the operation of the Law Enforcement Unit (LEU) and the Central Station Computer (CSC).

10 FIGURE 7 is a flow diagram of the operation of the Central Station Computer (CSC).

## **DESCRIPTION OF THE PREFERRED EMBODIMENT**

With reference now to the drawings, and in particular to Figures 1 through 7 thereof, a new vehicle verifying and disabling system embodying the principles and concepts of the present invention and generally designated by the reference numeral 10 will be described.

20 The present invention allows a law enforcement officer to remotely disable and enable a suspect vehicle, such as an automobile, boat, snowmobile, motorcycle, aircraft, and any other motor vehicle.

25 A police vehicle 1 is shown to be equipped with a standard Mobile Police Computer 5 which is interfaced through a serial port to the Law Enforcement Unit (LEU) module 4 which includes a directional antenna 3 (see FIG. 1). When the law enforcement officer sees a suspect vehicle 2 behaving erratically or breaking the law, he presses the INQUIRE button 100 (see FIG. 2) on his LEU module 4. This causes the LEU to transmit an INQUIRY signal 8 to the Vehicle Control Unit (VCU) 9 in the suspect vehicle 2. Upon receipt of the INQUIRY signal 8, the VCU 9 returns an ID code of

the suspect vehicle 2. The LEU relays the ID code to the Central Station Computer 6 using the existing link 7 between the Mobile Police Computer 5 and the Central Station Computer 6. The Central Station Computer looks up the ID code in a Hot Sheet Database, a  
5 Motor Vehicle Database, a Vehicle Authorization Database and any other appropriate databases and transmits the Vehicle Authorization Code 106 (which is used as a password to control the suspect vehicle 2) to the Mobile Police Computer which relays the Vehicle Authorization Code to the LEU which uses the code with the  
10 INQUIRY and STOP commands to stop the suspect vehicle.

Security is maintained by encrypting the Vehicle Authorization Code in nonvolatile Random Access Memory (RAM) 9 on the VCU at the time it is installed in the vehicle. This Vehicle  
15 Authorization Code is the same one that is stored on the Central Station Computer in a large database for all VCUs (and the associated vehicle) manufactured. The data transmission between the suspect vehicle 2 and the police vehicle 1 as well as data transmission between the police vehicle and the Central Station  
20 Computer 6 is encrypted using private key methods to ensure the security of the entire data stream. Theft of an LEU or an LEU and a VCU does not violate the security of the system because the actual Vehicle Authorization Codes reside only on the Central Station Computer 6 database in contrast to other known systems which use  
25 algorithmically-derived authorization codes.

A preferred VCU module 4 (see FIG. 2) includes the INQUIRE, STOP and RESET buttons of the module. The module 4 is the interface between the law enforcement officer and the LEU 4. 30 When a suspect vehicle is behaving erratically or breaking the law, the officer first presses the INQUIRE button 100, and the INQUIRE

LED 103 will be will then began blinking. Once the Central Station Computer 6 returns the Vehicle Authorization Code of the suspect vehicle, the INQUIRE LED 103 will illuminate. It is possible for the Central Station Computer to return multiple authorization codes, one for each vehicle within the LEU's transmitting and receiving range, and will all be displayed on the mobile computer 5. For this occurrence, the officer will press the INQUIRE button 100 until the suspect vehicle is highlighted in the display, the most likely suspect vehicle will be automatically highlighted. Each time a new vehicle is highlighted in the Mobile Police Computer's display, an INQUIRE command is transmitted to that vehicle's VCU which will activate that vehicle's flasher light circuit, as an easy visual acknowledgement to the police officer showing which vehicle is active in the Mobile Police Computer. When the correct vehicle is highlighted, the police officer will press the STOP button 101, the LEU will transmit the STOP command and the STOP LED will begin flashing. The VCU then transmits and acknowledgement to the STOP command and then activates the suspect vehicle's horn and puts the vehicle's engine in idle. When the LEU receives the acknowledgement from the VCU, the STOP LED 104 will turn solid. Once the suspect vehicle is immobilized and the officer has the situation in control, the officer can deactivate the suspect vehicle's horn by pressing the RESET button 102, the RESET LED 105 will then start flashing. Finally, when the situation is over, the police officer then presses the RESET button 102 one last time to key activate the suspect vehicle from the system. User configurable voice status messages will be output from the LEU each time a vehicle is inquired, stopped, or reset allowing the police officer to keep his eyes on the road at all times.

30

A preferred vehicle control unit (VCU) is shown in FIG. 3.

The VCU is made up of a programmable logic controller 17 linked to a transceiver 16 and an antenna 31. The power supply 21 draws power from the vehicle's battery. Control of the vehicle is gained through the emergency flasher control 20, the horn controls 19, and

5 depending if the VCU is installed on a new vehicle in the factory or if it is installed in a used vehicle as a retrofit, there are different controls 40 for each. In new vehicles, the serial data line and the command line 29 of the PLC communicate with the vehicle's Powertrain Control Module (PCM) 30. The serial data line is an

10 encrypted digital pulse train that the vehicle Powertrain Control Module (PCM) looks for at all times. The loss of the signal will cause the vehicle to return to idle and illuminate the check engine light of the vehicle as an anti-tamper feature. The command line signal is an analog or digital signal to the PCM, which will return

15 the vehicle to idle. The command line can be enabled by a command from the LEU or by the owner of the vehicle, using a keypad access code. The retrofit controls are the tachometer sensor 23, the PRNDL switch 24, the Brake On/Off (BOO) switch 25, the Throttle Position Sensor 26, the Vehicle Load Sensor (VLS) 27, and

20 the Vehicle Speed Sensor 28. The tachometer sensor 23 produces an analog or digital signal representing the engine speed in revolutions per minute. The lowest tachometer signal captured during the snapshot phase. The PRNDL switch 24 produces an analog or digital signal identifying the gear position of the vehicle

25 (i.e., Park, Reverse, Neutral, Drive, or Low gear), and is also used as a necessary condition to be met prior to the snapshot being taken. The BOO switch 25 produces an analog signal that confirms vehicle brake application (e.g., pressing on the brake pedal), and is used as one of the conditions that must be met before the learning

30 processor 22 snapshots the TPS (throttle position sensor) 26 and the

Load Sensor 27. The throttle position sensor 26 produces an analog or digital signal representing the vehicle operator's acceleration intentions. The Vehicle Load Sensor 27 produces an analog or digital representation of the load placed on the engine, and may 5 measure airflow in grams per second or in engine vacuum (e.g., absolute pressure). The vehicle speed sensor (VSS) 28 produces an analog or digital signal representing vehicle speed and may be used in conjunction with, or in place of, the signal of the BOO sensor 25, and this will be critical in determining the at rest, in gear 10 parameters of the Throttle Position Sensor 26 and the Engine Load Sensor 27. All of these retrofit items feed into the learning processor 22 portion of the PLC 17. The Learning Processor 22 takes a snapshot view at different instances of the vehicle's operation. Once the Learning Processor 22 has acquired enough 15 data regarding the vehicle's sensor levels, the PLC 17 can communicate with the vehicle's Powertrain Control Module 30, and can idle the vehicle once enabled.

A preferred Law Enforcement Unit (LEU) is shown in FIG. 4. 20 The LEU is made up of a Programmable Logic Controller 12 linked to a transceiver 11, an antenna 10, and a power supply 15 to feed the entire circuit. The LEU communicates with the Mobile Police Computer via an Input/Output Port 13 and interfaces with the computer 5 shown in Figure 1.

25 The operation of the vehicle control unit (VCU) is illustrated in FIG. 5. After the unit is powered on (box 50), the unit goes into a wait state (box 52). Upon reception of an Inquiry Command (box 54), the system transmits the vehicle ID code to the LEU. The VCU 30 will wait up to 30 seconds after the Inquiry Command for the authorization code to be sent by the LEU to the VCU as a "lock-on"

acknowledgement (box 56). If a valid authorization code is received (box 58), the vehicle's flasher lights (e.g., the turn signals lights) are turned on (box 60) and the VCU will wait for a STOP or RESET command. If no command is received, or a RESET

5 command is received, the flashers are turned off (box 64) and the system is RESET to an initial state. If a STOP command is received, then the vehicle is put into an idle state. This will cause the vehicle to coast to a stop. The horn may be activated in an oscillatory fashion (e.g., turned on and off in approximately 1  
10 second intervals). When an R1 (First Reset) command is received (box 68), the horn is turned off (box 70) to allow the officer to question the driver. When an R2 (Second Reset) command is received (box 72), the system is reset and the vehicle is again fully operational (box 73).

15 After power up (see FIG. 6) of the LEU module, the LEU module waits for serial authorization code (box 75) from the Mobile Police Computer 5 (which may be solicited from various combinations of inputs, e.g., swipe card, pin number, fingerprint  
20 sensor, retinal scan). If data is received (box 76), then the local authorization code is stored in the LEU chip is compared with the received authorization code and validated (box 80). If the authorization code is proper, then the user interface is started, and awaits commands (box 82) from the LEU module. Upon receipt of  
25 an INQUIRE command, the LEU sends an ID code from the Vehicle Control Unit (of the suspect vehicle) to the Central Station Computer 6 and waits for the Vehicle Authorization Code to be sent back over a secure interface from the Central Station Computer (box 86). If the vehicle has already been acquired, the flashers of  
30 the vehicle will already be blinking (box 94), and the LEU will switch to another vehicle (e.g., the next closest vehicle in signal

strength) as the current vehicle (box 96). Otherwise, it will select the closest vehicle as the current vehicle 98. Then the INQUIRY command with authorization code will be sent to the suspect vehicle (box 110) to actually "lock on" and start the flashers of the suspect vehicle flashing. The LEU will rescan the current area and update the list of vehicles in range (box 112). Within 30 seconds, the system will wait for a status return from the suspect vehicle's LEU to acknowledge that the system has indeed been acquired (box 114). Based on that response, the system's state will be updated (box 116) and a voice status message will be played (box 118).

An additional software module (see FIG. 7) may be required at the Central Station Computer 6 to process authorization checks from the various LEUs, and simultaneously screen the ID code of the vehicle and the operator of the vehicle for violations. Upon initiation (box 120), the software opens the appropriate databases (box 121) and communication links (box 122) to the wireless network in waits for an ID code check request (box 124). Upon reception of an ID code (box 126), the code number is located in the appropriate databases (box 132) and the Vehicle Authorization Code and other pertinent information is transmitted back to the requesting Mobile Police Computer (box 134) and an audit trail is created (box 136). The computer program may be terminated for maintenance purposes or other reasons (boxes 128, 130).

The data sent back to the requesting law enforcement patrol can be such information as: a stolen vehicle automated "HOT SHEET" scan, an operator description/warrant check, a visual check to match license plate with automated license plate information and a check of vehicle registration information.

Possible uses of the present invention includes rental fleets, corporate fleets, police vehicles, commercial vehicles, and vehicles in urban, high-theft-rate areas. Governments could require mandatory use for drivers with D.W.I. records. Insurance companies would be motivated to give discounts to customers who have the present invention installed on their vehicles, because this would diminish the chances of auto theft and auto damage claims due to accidents in high-speed chases. Foreign governments with societies that are more restrictive than the U.S. might require the device for all newly manufactured vehicles (i.e., Singapore).

As to a further discussion of the manner of usage and operation of the present invention, the same should be apparent from the above description. Accordingly, no further discussion relating to the manner of usage and operation will be provided.

With respect to the above description then, it is to be realized that the optimum dimensional relationships for the parts of the invention, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art, and all equivalent relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by the present invention.

Therefore, the foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the

scope of the invention.

## CLAIMS

We claim:

1. A vehicle disabling system comprising:

a vehicle control unit for positioning in a vehicle, the vehicle control unit including a transceiver for transmitting and receiving signals via free space, the transceiver being adapted to receive an inquiry signal and transmit an identification code upon the receipt of the inquiry signal;

a central database station including memory for storing a plurality of identification codes of vehicle control units, an authorization code being associated in the memory with each of the identification codes of the vehicle control units; and

a mobile law enforcement unit for positioning in a law enforcement vehicle, the law enforcement unit including a transceiver for transmitting and receiving signals via free space, the law enforcement unit being adapted to transmit the inquiry signal to a vehicle control unit, the law enforcement unit being adapted to receive an identification code from the vehicle control unit and transmit the identification code to central database station, the law enforcement unit being adapted to transmit the stop signal with the authorization code via free space to the vehicle control unit upon the receipt of the authorization code from the central database station.

2. The system of claim 1 wherein the vehicle control unit is adapted for connection to at least one exterior light circuit of the vehicle such that exterior lights of the vehicle are flashable by the vehicle control unit upon receipt of the inquiry signal by the

transceiver to provide external visual confirmation of receipt of the inquiry signal by the vehicle control unit.

3. The system of claim 1 wherein the vehicle control unit is adapted for connection to an ignition system of the vehicle such that the vehicle control unit is adapted to lower an engine speed of the vehicle to an idle condition upon the receipt by the transceiver of a stop signal accompanied by an authorization code via free space within a predetermined amount of time after receipt of the inquiry signal.

4. The system of claim 1 wherein the vehicle control unit is adapted for connection to a horn of the vehicle such that the vehicle control unit is adapted to actuate the horn of the vehicle upon the receipt by the transceiver of a stop signal accompanied by an authorization code via free space within a predetermined amount of time after receipt of the inquiry signal.

5. The system of claim 3 wherein the predetermined amount of time is approximately 30 seconds.

6. The system of claim 4 wherein the predetermined amount of time is approximately 30 seconds.

7. A vehicle disabling system comprising:  
a vehicle control unit for positioning in a vehicle, the vehicle control unit including a transceiver for transmitting and receiving signals via free space, the transceiver being adapted to receive an inquiry signal and transmit an identification code upon the receipt of the inquiry signal, the vehicle control unit being connectable to at least one exterior light circuit of the vehicle such that exterior lights of the vehicle are flashable by the vehicle control unit upon

receipt of the inquiry signal by the transceiver to provide external visual confirmation of receipt of the inquiry signal by the vehicle control unit, the vehicle control unit being connectable to an ignition system of the vehicle such that the vehicle control unit is adapted to lower an engine speed of the vehicle to an idle condition upon the receipt by the transceiver of a stop signal accompanied by an authorization code via free space within a predetermined amount of time after receipt of the inquiry signal, the vehicle control unit being connectable to a horn of the vehicle such that the vehicle control unit is adapted to actuate the horn of the vehicle upon the receipt by the transceiver of a stop signal accompanied by an authorization code via free space within a predetermined amount of time after receipt of the inquiry signal, wherein the predetermined amount of time is approximately 30 seconds;

a central database station including memory for storing a plurality of identification codes of vehicle control units, an authorization code being associated in the memory with each of the identification codes of the vehicle control units; and

a mobile law enforcement unit for positioning in a law enforcement vehicle, the law enforcement unit including a transceiver for transmitting and receiving signals via free space, the law enforcement unit being adapted to transmit the inquiry signal to a vehicle control unit, the law enforcement unit being adapted to receive an identification code from the vehicle control unit and transmit the identification code to central database station, the law enforcement unit being adapted to transmit the stop signal with the authorization code via free space to the vehicle control unit upon the receipt of the authorization code from the central database station.

8. A method of disabling a vehicle comprising the steps of:

providing a vehicle control unit for positioning in the vehicle, the vehicle control unit including a transceiver for transmitting and receiving signals via free space;

providing a central database station including memory for storing a plurality of identification codes of vehicle control units, the memory of the central database storing an authorization code associated with each of the identification codes of the vehicle control units;

providing a mobile law enforcement unit for positioning in a law enforcement vehicle, the law enforcement unit including a transceiver for transmitting and receiving signals via free space;

transmitting an inquiry signal from the law enforcement unit to the vehicle control unit;

transmitting an identification code from the vehicle control unit to the law enforcement unit;

transmitting the identification code from the law enforcement unit to the central database station; and

matching an authorization code from the memory of the central database station to the identification code.

9. The method of claim 8 additionally comprising transmitting the authorization code to the law enforcement unit.

10. The method of claim 9 additionally comprising transmitting the authorization code and stop signal from the law enforcement unit to the vehicle control unit.

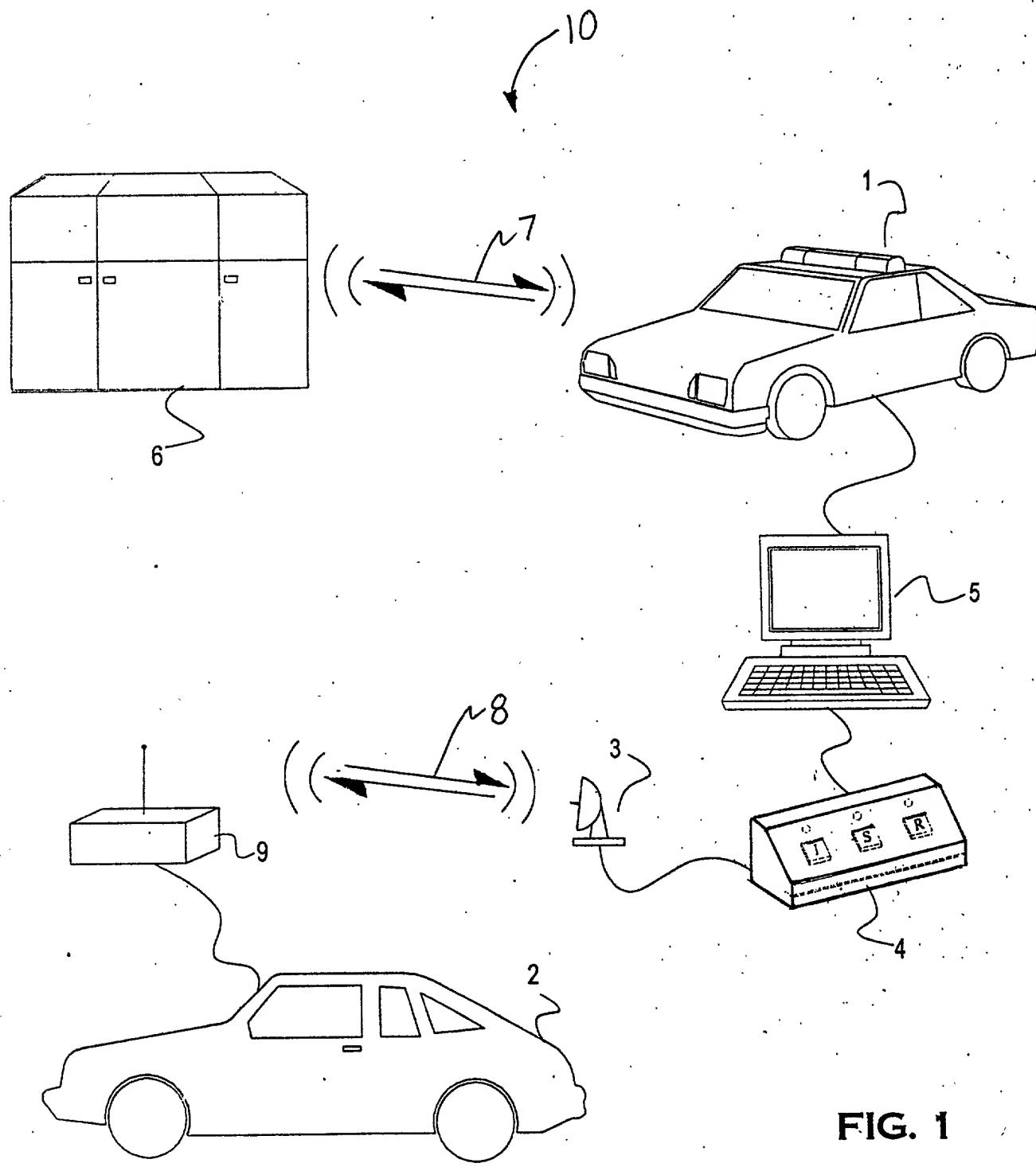
11. The method of claim 10 additionally comprising lowering an engine speed of an engine of the vehicle by the vehicle control unit upon the receipt by the vehicle control unit of the stop signal accompanied by the authorization code.

12. The method of claim 10 additionally comprising actuating a horn of the vehicle upon the receipt by the vehicle control unit of the stop signal accompanied by the authorization code.

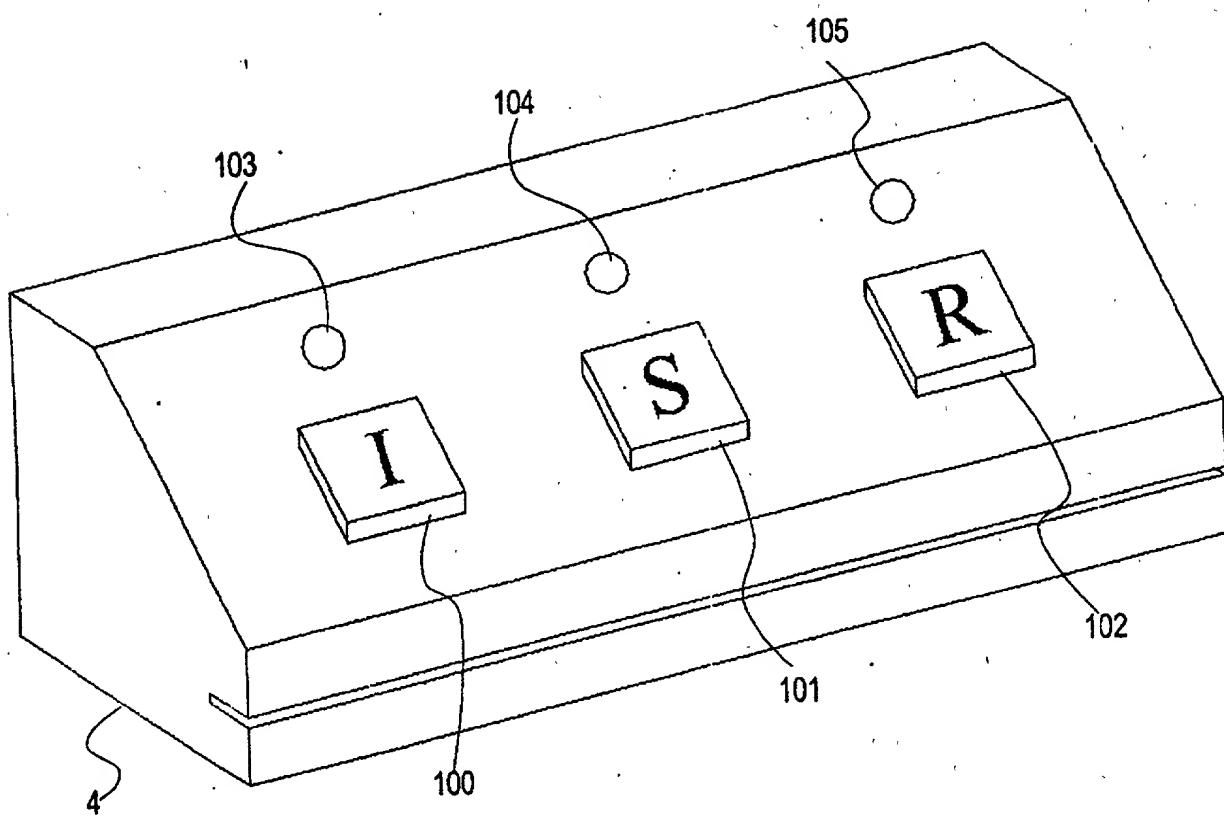
13. The method of claim 8 additionally comprising flashing exterior lights of the vehicle by the vehicle control unit upon receipt of the inquiry signal by the vehicle control unit to provide external visual confirmation of receipt of the inquiry signal by the vehicle control unit.

**ABSTRACT OF THE DISCLOSURE**

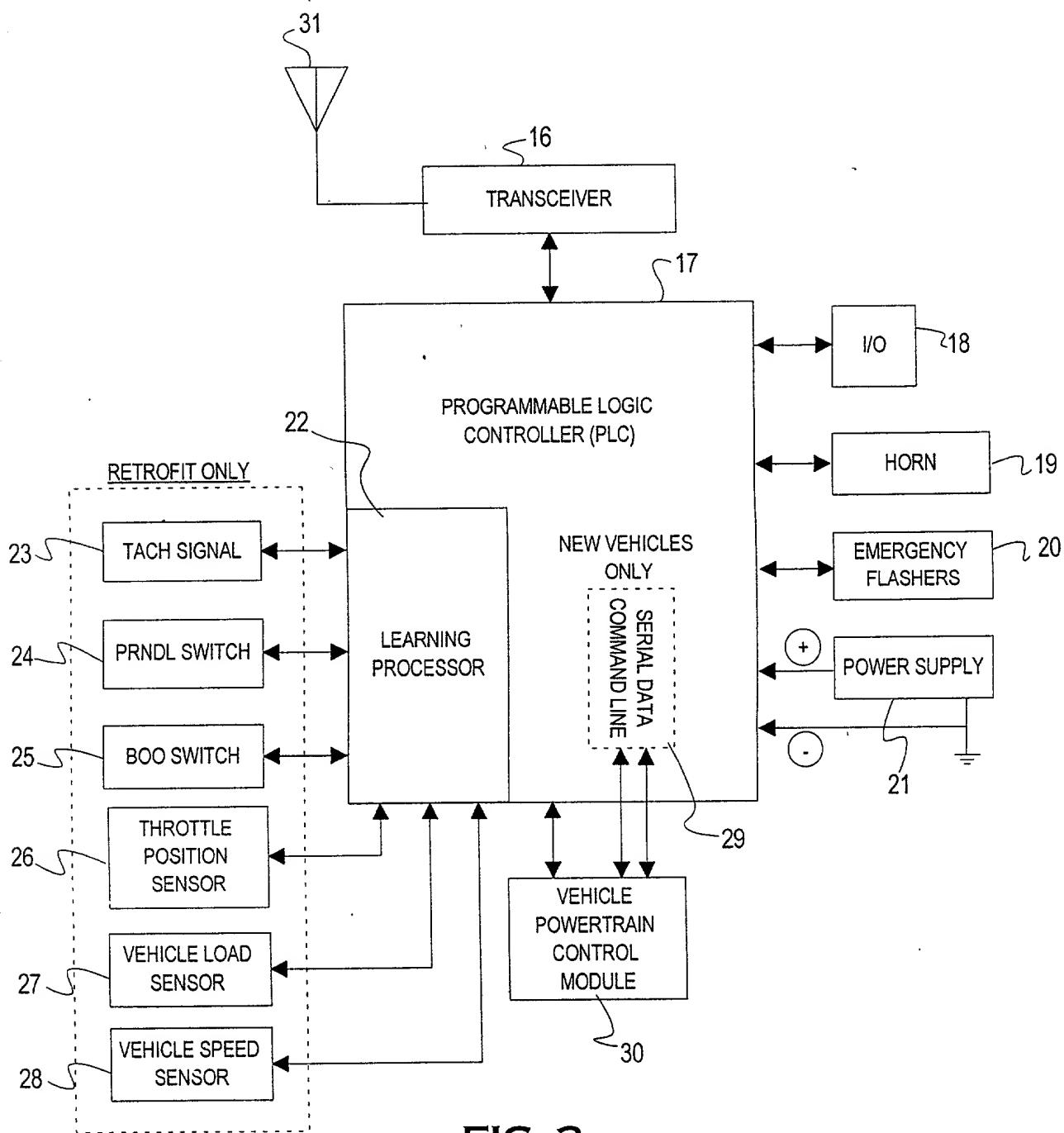
5        A vehicle disabling system including a vehicle control unit for positioning in a vehicle. The vehicle control unit includes a transceiver for transmitting and receiving signals via free space. The transceiver is adapted to receive an inquiry signal and transmit an identification code upon the receipt of the inquiry signal. A 10 central database station includes memory for storing a plurality of identification codes of vehicle control units. An authorization code is associated in the memory with each of the identification codes of the vehicle control units. A mobile law enforcement unit is provided for positioning in a law enforcement vehicle. The law 15 enforcement unit includes a transceiver for transmitting and receiving signals via free space. The law enforcement unit is adapted to transmit the inquiry signal to a vehicle control unit. The law enforcement unit is adapted to receive an identification code from the vehicle control unit and transmit the identification 20 code to central database station. The law enforcement unit is adapted to transmit the stop signal with the authorization code via free space to the vehicle control unit upon the receipt of the authorization code from the central database station.



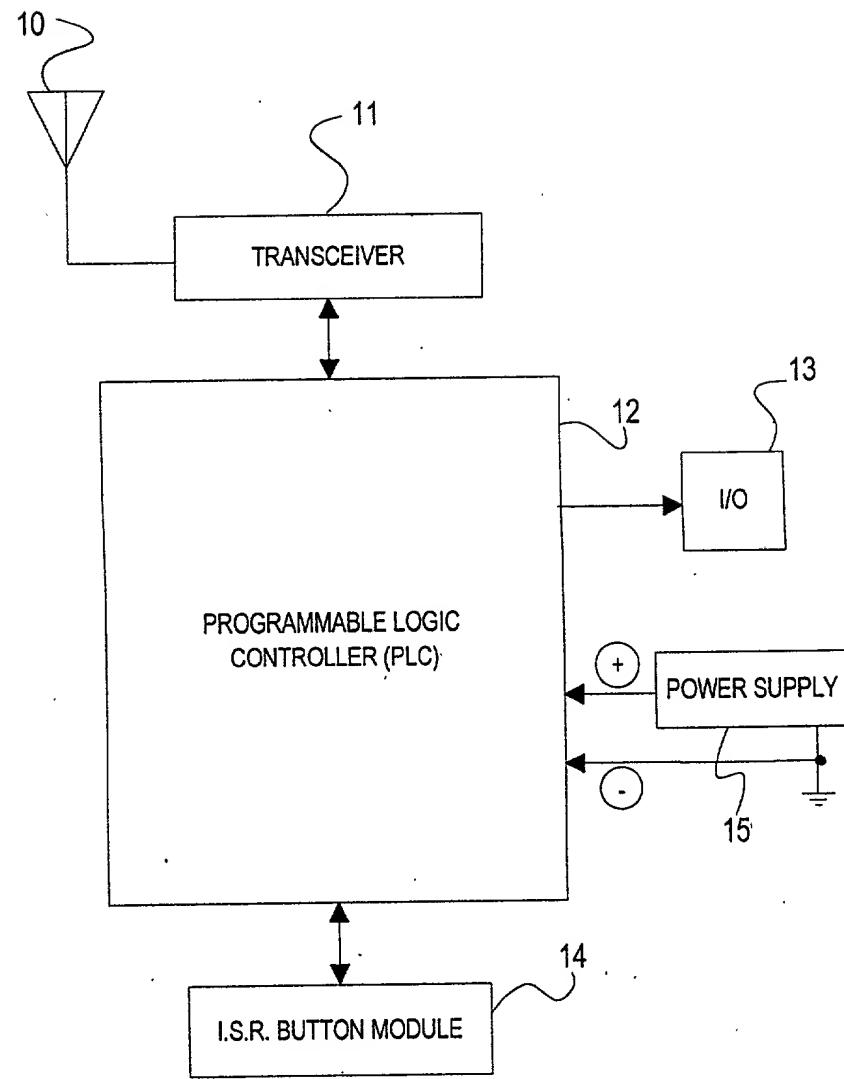
**FIG. 1**



**FIG. 2**



**FIG. 3**



**FIG. 4**

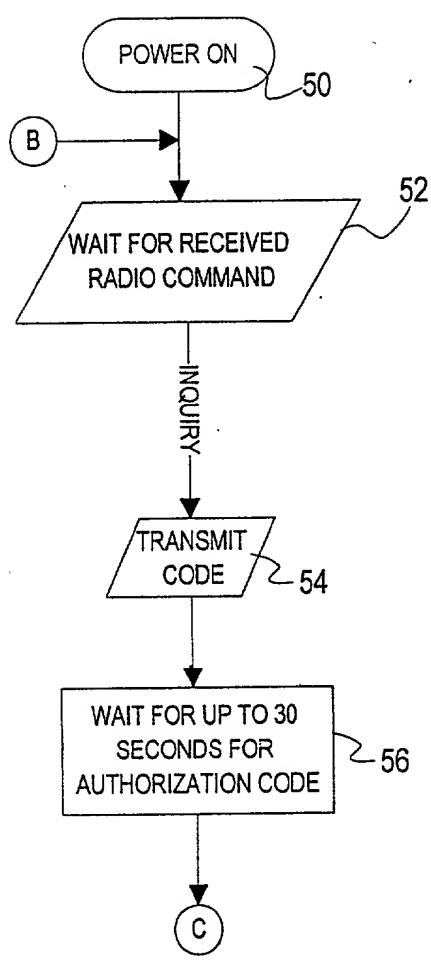


FIG. 5A

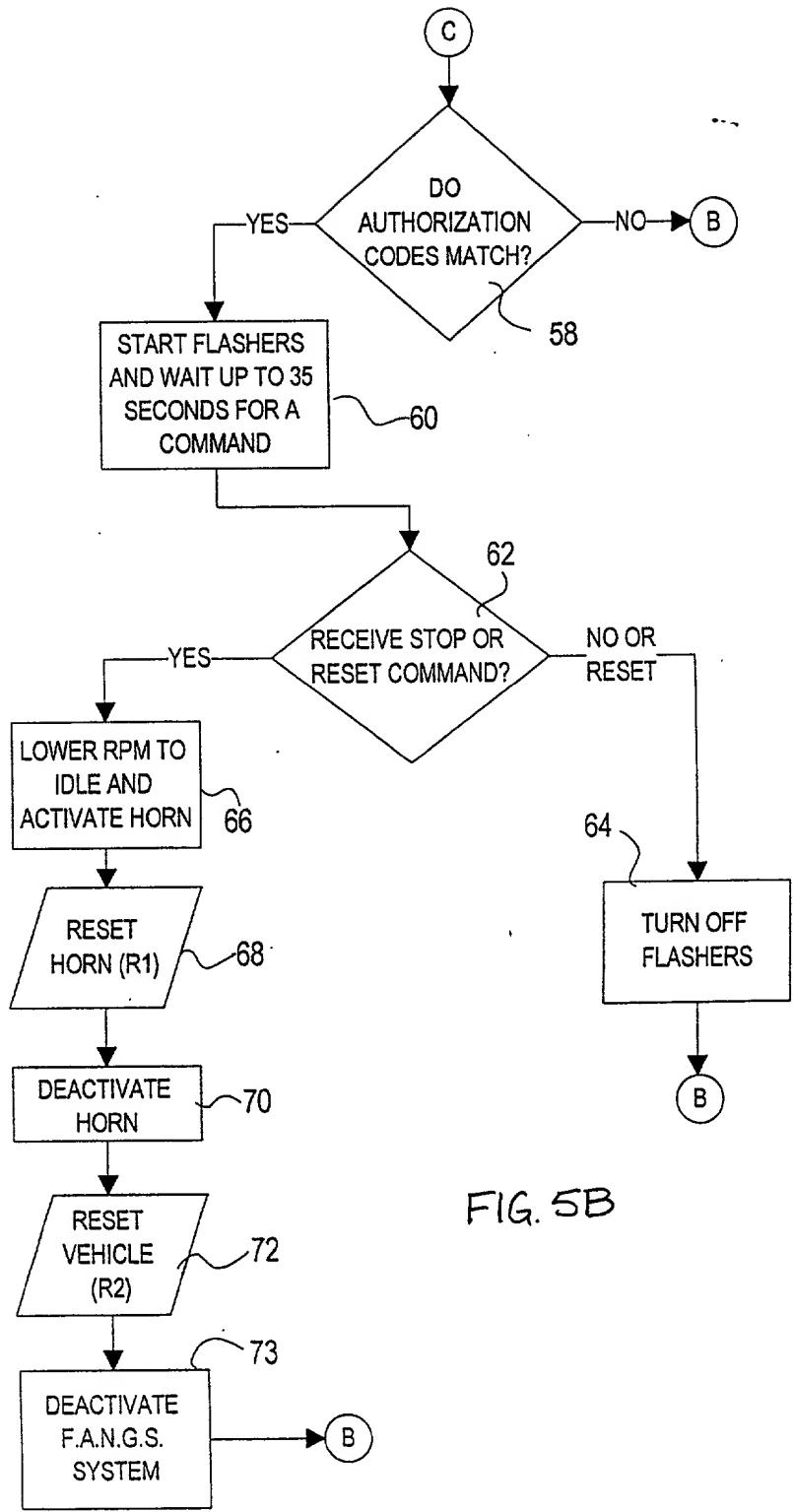


FIG. 5B

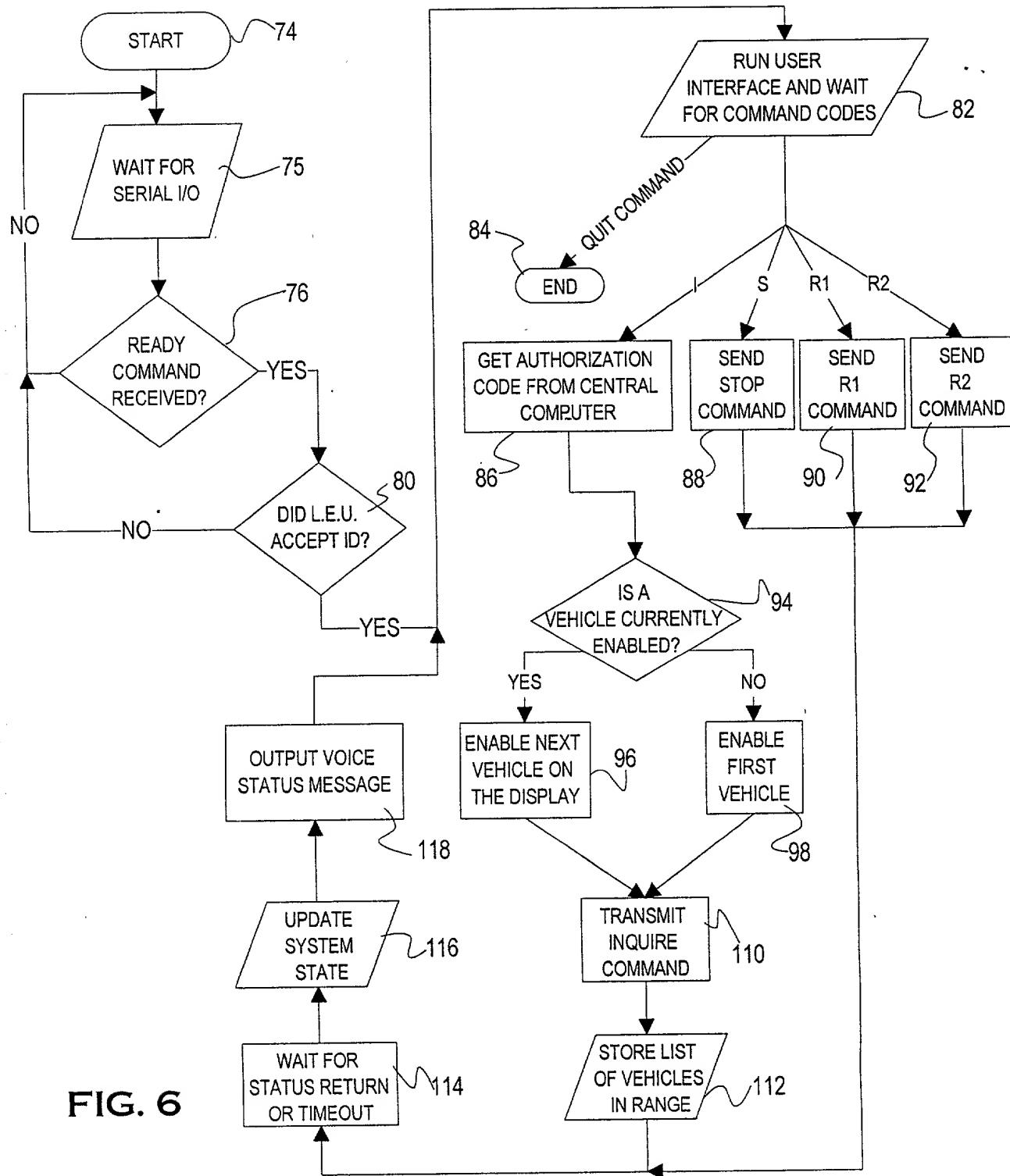
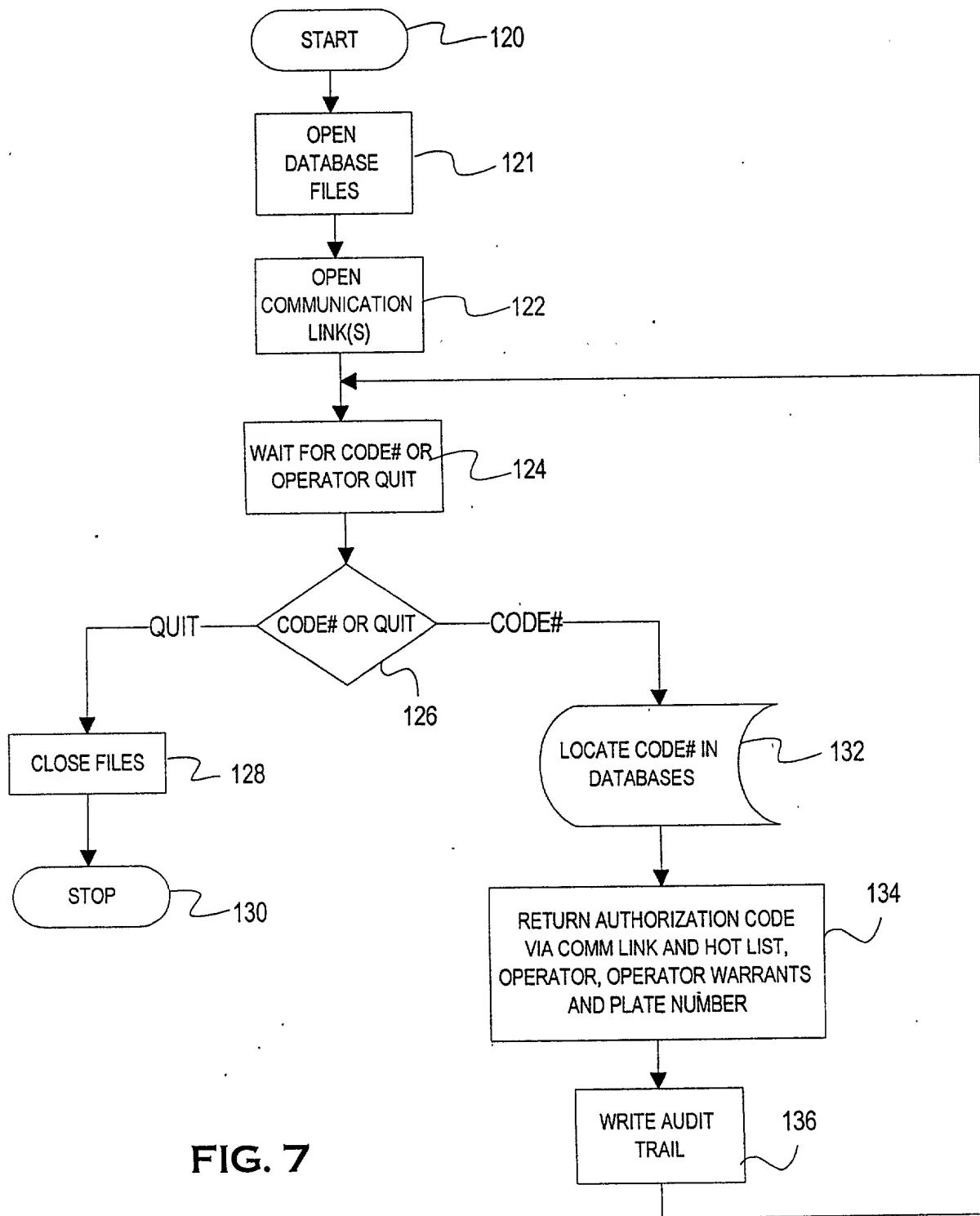


FIG. 6

**FIG. 7**

**DECLARATION AND POWER OF ATTORNEY**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**FREQUENCY ACTIVATED NEUTRALIZING GENERATOR SYSTEM**

the specification of which is attached hereto.

I further state that I do not know and do not believe that the above-named invention has ever been known or used in the United States before my invention thereof, or patented or described in any printed publication in any country before my invention thereof, or in public use or on sale in the United States more than one year prior to this application; that the invention has not been patented or made the subject of any inventor's certificate in any country foreign to the United States on any application filed by me or my legal representatives or assigns more than six (6) months prior to this application; and that no application for patent or inventor's certificate on the invention has been filed by me or my representatives or assigns in any country foreign to the United States, except as identified below.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment if applicable.

I acknowledge the duty to disclose information to the Patent and Trademark Office all information known to me to be material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s) Priority Claimed

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States Provisional application(s) listed below:

NONE  
(Application No.)

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s), or Section 365 (c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, Section 112. I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

09/031,474  
(Application No.)      2/26/98  
(Filing Date)      Pending  
(Status - patented,  
pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorneys to prosecute this application and transact all business in the U.S. Patent and Trademark Office connected therewith: Ivar M. Kaardal, Registration Number 29,812.

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Inventor's Signature

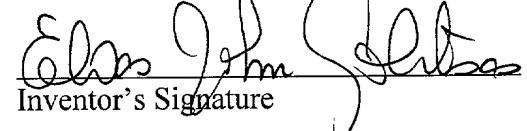
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Appl. of: JOSEPH P LIGOCI, SR.

ELIAS J GOLETSAS

Serial No.:

Filed:

Title: FREQUENCY ACTIVATED NEUTRALIZING GENERATOR SYSTEM

Assistant Commissioner for Patents  
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**CHANGE OF CORRESPONDENCE ADDRESS**

Dear Sir: Please change the correspondence address of the attorney of record to:

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It is certified that the person whose signature appears below has the authority to change the correspondence address for the patent. Please direct all further communications to the above-identified address.

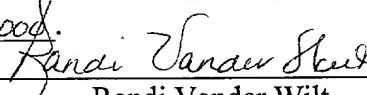
Respectfully submitted,

Date: September 15, 2000

  
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**CERTIFICATE OF MAILING**

I hereby certify that this document herewith is being deposited with the United States Postal Service with proper postage as First Class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on this 15 day of September, 2000.

  
Randi Vander Wilt

